

3

EXTRACTS FROM
THE EVIDENCE

GIVEN BEFORE



A SELECT COMMITTEE

OF THE

HOUSE OF COMMONS

ON _

THE HEALTH OF TOWNS.

BY

GEORGE ALFRED WALKER, SURGEON.

1840

APPENDIX.

EVIDENCE GIVEN BEFORE PARLIAMENT.

The following is the evidence given by Mr. Walker before the "Select Committee on the Health of Towns," at two examinations, namely, on the 26th of May and the 4th of June last year. The Committee consisted of the following members:—

Mr. Slaney.—*Chairman.*

Lord James Stuart,
Mr. Mackinnon,
Mr. Vigers,
Mr. John Ponsonby,
Mr. Cowper,
Mr. Greene,
Mr. Richard Walker,

Mr. Wilson Patten,
Sir Harry Varney,
Mr. Baines,
Mr. Oswald,
Mr. Tufnell,
Mr. Brotherton, and
Mr. Ingham.

George Alfred Walker, Esq. called in; and Examined.
(May 26, 1840.)

3116. *Chairman.*] You are a medical man residing in the neighbourhood of Drury Lane, are you not?—I am.

3117. That is a district surrounded by a populous neighbourhood, with a considerable number of courts opening into it in different directions, is it not?—Yes; but I consider it a good neighbourhood upon the whole.

3118. Are there not some courts in which there is no exit through them?—Yes; there is a cul-de-sac, named Wellington Court formerly, and which is now called Nag's Head Court, and others.

3119. Is that inhabited by a considerable number of persons of the poorer class?—It is inhabited principally by Irish. The sewerage is in a very bad state; in fact, there is no sewerage there; there is a contrivance which is a sort of cabinet d'aisance, in which the excrementitious matter has frequently been ankle deep on the floor. I visited the place only yesterday.

3120. *Mr. Cowper.*] Do you mean the floor of the house?—You pass through a passage, you enter the passage door, and in the corner is this place, and a most filthy and disgusting one it is.

3121. *Chairman.*] Is there any system of cleansing or scavenging there?—There used to be a contrivance that would be something like an ordinary place; there are two holes, and when they are filled with the excrementitious matter it may, perhaps, pass through into a reservoir, or else run over the seat, whichever may chance to happen.

3122. Is there any system of scavenging and cleansing by proper authority?—No; it is most grossly neglected.

3123. Does the health of the inhabitants suffer in consequence of the want of draining and cleansing, and the neglect of sanitary regulations, in that district?—Most unquestionably; and it is easily provable.

3124. Does fever prevail in that district to any extent?—Yes; I do not speak of the immediate district, but right and left about it. I have had two most terrible cases of disease in that court lately.

3125. Are there any other courts in the vicinity which, though not so much neglected as that, are somewhat in a similar state?—Yes; Clement's-lane is a sample of filth and abomination.

3126. Is that also a eul-de-sac?—No.

3127. Are the houses close to each other?—The street is narrow, only 15 feet wide.

3128. Is there any good system of sewerage there?—No; the sewerage is bad.

3129. Is there any system of scavenging or cleansing there?—It is sadly neglected.

3130. Is there any officer whose duty it is to inspect this district, and to give notice to the proper authorities, or to take care that the cleansing is properly done?—None that I am aware of. There ought to be a power of enforcing it somewhere; and I have long wondered that whilst in this country so much attention is paid to the protection of the person and property, so little care should be taken of the health of its inhabitants.

3131. Are you aware that the neglect of some sanitary regulations which would tend to promote the health of the poorer classes, is a cause of great expense to the richer classes?—There can be no question about it, and it is also a source of great dissatisfaction on the part of the poor with regard to those above them in authority.

3132. In consequence of the illness arising from the neglect of such regulations, do you conceive that a great burthen is frequently cast upon the poor rates?—There is no doubt of it; and also upon the hard-working surgeon. I am sure I give away from 100*l.* to 200*l.* in medicines and attendance every year to sick persons, and I cannot help it, as I am compelled to have those cases come under my notice.

3133. A great cost is also incurred in dispensaries and hospitals, and all other benevolent institutions, that have for their object the relief of the poorer classes when out of health, is there not?—Precisely so; and I was about to say, I take this view of the question, that although these places are good establishments, yet a great deal of disease is caused by the neglect of sanitary regulations, and this neglect is a source of expense that might otherwise be saved. There is one point I wish to advert to particularly, with respect to Drury-lane; from Queen-street (I know nothing of the ground plan there), but I think from Queen-street opposite Long Acre, we have no sewerage; the consequence is, that the excrementitious matters are pumped up, and they pass of course on the surface of the gutter; now while these gases are quiescent, little harm is done; but the instant they are mixed with the air, it is breathed by the inhabitants, and becomes noxious, and of course highly injurious to health.

3134. Now with regard to the evils arising from burial-places in the midst of the dense population of London or other large towns, have you made any particular observations upon that?—Yes, I have paid rather particular attention to that subject.

3135. Will you give the Committee the result of your observations?—I think it is very easily provable, that bodies have been placed, by some system of management, which at present I cannot understand, in spaces utterly inadequate to contain them.

3136. Do you apprehend that the health of the inhabitants in vicinities close to burying-grounds has frequently been injured?—I do.

3137. By the effluvia arising from the decomposition of bodies in these burying-places?—I think so, and no conservative power of constitution can resist it.

3138. Can you state any particular cemeteries or burying-places near the locality that you are best acquainted with, from which such evils arise?—I know very many, in every one of which that evil exists.

3139. Will you mention a few?—There is Enon chapel, in Clement's lane, Strand, that is a particular Baptist meeting-house.

3140. Is that in a populous district?—Yes, surrounded with numerous inhabitants.

3141. Will you mention another?—There is the burying-ground of Portugal-street, Lincoln's Inn Fields.

3142. Any other?—There is one in Russell-court, Drury-lane, which is excessively full; and there is another in St. Martin's-in-the-fields, in Drury-lane.

3143. Where is that situated?—That is to the left, on the western side, a little way beyond this court I have been describing.

3144. Are there any other?—Yes; in St. Giles's, and in many other parishes, they are in the same condition; I have examined and described more than forty of them in a work entitled "Gatherings from Grave-yards."

3145. *Mr. Comper.*] Have you any proof of the injurious effects of these church-yards?—Yes, abundance of proof.

3146. Of what character?—Of death arising instantaneously, and deterioration and depreciation of health.

3147. *Chairman.*] This is not your own individual opinion, but the concurrent opinion of most medical men, is it not?—No; it is not an universal opinion, there are some of a different opinion.

3148. But although there may be difference of opinion as to the evil to health arising from these exhalations, there can be no question as to their being disagreeable and unpleasant to the inhabitants of that vicinity?—Yes; and more than that,—they are decidedly injurious to health.

3149. Then although persons may differ about the one, they cannot differ about its being excessively unpleasant and noxious to the inhabitants to have smells of that kind arising?—No; but life may be destroyed without any smell being perceptible.

3150. Is there any other point upon which you can give evidence referable to sanitary regulations beneficial to the humbler classes in large towns?—I have spoken of the sewerage being very deficient in my neighbourhood; another point is the deterioration of the water. There is a police station-house in Pickett-place in the Strand. I was called upon some time ago to attend a family who were just arrived from the country; I had some reason to suspect that there was some generally acting cause, for of upwards of 40 individuals living in this station house, scarcely one of them could be pronounced to be in good health. I instituted some inquiries; made an examination, and found that the pipe conveying the excrementitious matters from the two upper floors ran parallel with and within a few inches of the pipe bringing up the water that supplied the whole of the building. This water was of course drank, and employed for washing and cooking. I requested a little water to be drawn for me, the smell was exceedingly offensive; dissolved excrementitious matters were easily distinguishable.

3151. There was a deterioration of the water from this filthy stuff then?—Yes; it was dropping, in fact, into the cistern; I went and

examined it, and found the pipe was about four inches and a half in the bore, and in a most wretched state.

3152. Then do you attribute the illness to this cause?—I do; but I should say that has since been amended; I was there two or three days ago.

3153. Is there any other point you can direct the attention of the Committee to, connected with this inquiry?—I think the proximity of the cabinets d'aisance to the water-butt is a great cause of disease, because these gases pass off, and then they become absorbed to a certain extent. I would also beg to state in general terms that the mortality in Clement's-lane has been very great.

3154. Can you state what it is in reference to the population?—Yes, at a rough guess I think there are 70 houses, and giving 10 persons to each house, that would be 700 persons, and the mortality has been four per cent. from fever of various grades. There were 41 deaths within 18 months.

3155. That is one in 25, is it not?—Yes; the mortality in this particular lane equals that of the worst district in London, the Whitechapel, and that is calculated from all the causes of death put together.

3156. Independently of the deaths caused by fever, were there not also in that district many cases of persons whose health was injured, and whose forces and powers for industrious purposes were very much lessened, in consequence of the fever?—Most unquestionably; and I have no doubt that a vast portion of the poverty and destitution that exists arises from the combined operation of many causes of disease, that under a good system of medical police would not be permitted to exist.

3157. Does the practice of drinking ardent spirits prevail much in those low districts?—It does; and that is one point I would wish to touch upon: many persons take stimuli from various causes, and one vastly exciting cause is the condition of the air they breathe.

3158. Do you not conceive that in the neglected localities you have spoken to, in which dirt and disease prevail so much, that these poorer classes frequently fly to spirits as a temporary resource and refuge as it were from the evils around them?—Yes, constantly. They are smitten by an invisible agent, the bad air they breathe; there is no question that that is one vast cause.

3159. Then these neglected points to which the Committee have adverted, is in one respect the cause of their spirit drinking, and then the spirit drinking becomes in its turn a cause of disease and neglect?—Unquestionably.

3160. *Mr. Corper.*] Do you mean that the infected atmosphere has a depressing effect upon the people subjected to its influence?—Yes; it involves the necessity of taking something as a stimulant.

3161. *Chairman.*] These neglected districts have among them a great number of children, have they not?—A very great number.

3162. Are there any schools there?—There are.

3163. For the younger children?—Yes.

3164. Are there any play-grounds appendant to those schools?—Not one of them has a play-ground; that is a sad piece of information I am sorry to give.

3165. Is it not almost absolutely necessary to the development of their strength and the spirit and energies of youth, that they should

have some place of exercise?—There is no question about it. I have seen in my neighbourhood 18 children in a room, perhaps not more than 12 feet square, and that too over a receptacle for old bones.

3166. Was the air close and noxious?—Of course it was.

3167. And injurious to the health of the children? Unquestionably; Enon chapel has been employed as a school-room, and the children have met there over the bodies of the dead, which have been piled up to the ceiling of the cellar beneath; the ventilation is bad, and the rafters supporting the boards of the floor on which these children stand were not covered with the usual defence, lath and plaster.

(SECOND EXAMINATION.)

June 4, 1840.

3460. Mr. *Mackinnon*.] YOU are a medical man?—I am.

3461. You have written a book on the subject of the burial of the dead in large towns, have you not?—I have.

3462. You have turned your attention a good deal to that subject?—I have.

3463. In the book you have published, you have mentioned the evils arising from the want of ventilation in places such as eul-de-sacs?—I have.

3464. Have the goodness to state to the Committee generally your observations upon that subject?—I have little to add in addition to what I have previously stated. There is a eul-de-sac in the neighbourhood of Drury-lane, to which I have previously referred. In that court I was called upon to visit four children who had measles; I found them recovering from the eruption, but suffering with symptoms of typhus, complicated with sub-acute inflammation of the mucous coat of the intestines. The place in which they lived is one of the worst in the neighbourhood, being a eul-de-sac called Wellington-court, leading out of Drury-lane on the north-eastern side, approached by a long and narrow passage, most disgustingly dirty, without drainage, and inhabited by characters of the poorest description; the houses appear as though they were never cleaned or white-washed, and the abominations called filthy are here in abundance. One cause of the gradual though sure deterioration of health had been long in operation, and this, I think, upon inquiry, will be found amongst the poor to be present very generally, viz. the filthy condition of the privies. In this court there is no sub-surface drainage; the substitute resorted to here is one extremely likely to be the least efficient. Instead of the excrementitious matter being carried off, it is suffered to collect in the hole immediately under the seat until it reaches a certain height, when it is conveyed by a pipe into a reservoir, which when full, is in the same manner prevented from overflowing by another pipe communicating with a larger reservoir, in the middle of which is a tub pierced with gimlet holes, so as to allow the fluid to separate from the solid portion; into this inner tub the pipe, connected with a pump, enters, and the fluid has been pumped up by the nightman. One person who lived here used to mix up the excrementitious matters deposited during the day to a consistence with water,

and then pour it out on the surface-gutter in the court. No provision being made for the passage of the solid portion, as might be anticipated, all the reservoirs have long since been full; and the two *pot de chambres* being covered over by boards, the one immediately under the seat of the privy is constantly overflowing; indeed, frequently the soil has forced itself between and through the boards, and has repeatedly been foot deep on the floor and in the yard. Two children recovered; the other two were in succession attacked; one affected with gangrene of the mouth successively lost the whole of the upper lip; the lower jaw was laid bare inside and out, and the roof of the mouth destroyed; *petechiæ* now appeared, and the child, a most loathsome object, died. The mother now removed into another house in the same court, with the idea of benefiting the other child, a girl, who was in a similar state. This infant, about twelve months old, had, when the boy died, ulceration of the hard palate, denuding the bone and laying bare the alveolar processes all round. It was similarly intractable with the boy's, and successively destroyed the whole roof of the mouth, perforating the palate bones, and eventually opening a communication between the mouth and nose by the mortification of all the intervening parts. The nose was next attacked and removed; the upper lip, detached from its adhesion to the jaw, fell down, and was only prevented from separating itself from it by a small portion of yet sound skin at the angles of the mouth. The lower lip was next affected, and in an incredibly short space of time was nearly destroyed, when death relieved the poor little creature from its sufferings. It is impossible for language to express in too strong terms the horrible spectacle presented to the eye by the poor child, its face hardly recognizable, scarcely human, smelling most insufferably; its hands were almost constantly employed in picking piece by piece away of the remaining portions of the face; yet in this condition was it applied to the breast of the mother.

3465. To what do you attribute that dreadful disease in the child?—However the disease might be produced, unquestionably it would be much increased by the bad air and want of ventilation; it was almost impossible to enter the house.

3466. Do you attribute it in part to want of drainage?—Yes, to the combined influence of both; there has been a great mortality in that court.

3467. Have you any other particulars to state on this subject of ventilation?—I have nothing to add, I think, to what I have stated previously. An efficient Building Act is much required.

3468. Will you favour the Committee with your opinion respecting drainage?—I may state in general terms, that our neighbourhood is excessively ill-drained. Crown-court, in Little Russell-street, Covent-garden, is the property of the Duke of Bedford; and there, I am sorry to say, the excrementitious matter is pumped up, and flows down the centre of the court. There are many other places. I would mention a second-class house in Stanhope-street; a man named Fairbank, who has resided here two years, has, during that period, been affected with sickness; he is in general good health, but he cannot keep his food on his stomach: "as for myself, (says his wife) I am much affected in my head with giddiness and violent pain; my child is a year and a half old, and is troubled with sickness. I feel convinced it is from the drain, he is so much better when he is out of it."

3469. *Chairman.*] Do you feel convinced they were right in their opinion?—Yes; they are all affected in the house. Sarah Jackson, another lodger, states: “During the time we lived in Stanhope-street my family was much affected with sickness and loss of appetite, particularly my husband; my son Charles was so much affected that he could not take any animal food for a long time previous to our leaving the house; now his stomach rejects nothing received into it. I was very much troubled with the head-ache; it has, since I changed my residence, entirely left me; July 30, 1839.” Then again, in the same house, case 3, Miss Graham writes thus: “I have resided three years in this house; I was in perfect health when I entered it; within the last two years I have been much oppressed at the chest, attended with sickness, ejecting as it were copperas water; I endure a weakness that I cannot describe; I am relieved whilst out of doors; when I return my old feelings return with me. My sister is never free from the head-ache more or less; she has sickness at times.”

3470. Do you, as the medical man attending them, and knowing the situation in which they were, attribute the symptoms of which they complain to the want of drainage in the district?—I do; I am convinced that is the cause. I have taken this evidence at distinct times, without one communicating with the other; it is impossible not to attribute it to that. I will mention another instance. I have been to a house this morning in Angel-court; a family of the name of Swift lived there some time ago; not one of that family was healthy; the children had flaccidity of fibre; it will be invariably found when a child comes from the country, and enters a place where the drainage is defective, it will soon succumb; this will vary according to circumstances.

3471. Is this court you mention a cul-de-sac?—No. There is another case I will take from a respectable street, Little Russell-street, Covent-garden: “Ann Salt entered the service of a lady in Little Russell-street, Covent-garden; the drain in this house had long been in a most offensive state. This young woman, aged twenty years at the period of her entering this house, was in a firm state of health, had compact muscles, a red lip, a cheerful mind; during many months she was exposed to the action of a poison passing off from the water-closet. As she lived in the kitchen, and indeed slept there, she would of course be exposed during the greater portion of the time to its influence; her health gradually diminished, until at length her strength became so reduced that her sisters removed her in a coach to their lodging in Bear-yard, Lincoln’s Inn Fields (this place is in a most offensive condition); I was called to see her, and for some weeks the issue was doubtful; she had a most peculiar appearance of the entire skin of the body. It is my decided opinion that the drains are an immense source of disease.

3472. *Mr. Mackinnon.*] Are there any other particular cases you would mention?—Such additions to the atmosphere are decidedly injurious.

3473. Your opinion as a medical man is, that the state of the sewerage in parts of London is most defective, and that it generates the state of disease to which you have referred?—Yes, and many other diseases, by whatever name they may be called.

3474. And that having houses built in the shape of cul-de-sacs is most injurious, by preventing the circulation of air?—Unquestionably.

3475. Your opinion is, that there ought to be further legislative provisions?—Decidedly; I think it a very hard case that a poor man, without knowledge or judgment on his own part, should come into a locality, not knowing that there are causes constantly operating to depreciate his health; he may get out of it as he can; but frequently a saving of sixpence a week will induce a man to remain; his means may not enable him to remove; he is, thus perhaps the creature of circumstances, over which he has no control.

3476. You have no doubt of the loss of life, and disease generated, by the want of drainage in this town?—I have no doubt of it; it is cause and effect; and it is not merely the loss of life, but it is a serious matter to the health of many in the vicinity who feel the effects.

3477. Is it your opinion that it ought to be prevented, on account not only of the physical but the moral effect it has upon the community?—Unquestionably. If you expose children or adults to degrading influences, you must inevitably deteriorate their moral character; there will be constantly a struggle between moral propriety and physical necessity.

3478. Does not the putrefaction, arising from want of sewerage, generate a desire to drink, or to have recourse to spirituous liquors, from the low feeling it creates?—That is certainly the case.

3479. Are there any circumstances you can call to mind confirming that opinion?—I think that the grave-diggers as a body would confirm that. They generally drink.

3480. Mr. *Greene*.] How is the excrementitious matter removed from privies, such as you have described in those courts?—That is generally taken away by nightmen, frequently in the night; sometimes the excrementitious matter is mixed with water and poured out on the surface-gutter of the court. Such things are calculated to demoralize any one, or any set of men. From the end of Queen-street, opposite Long-acre, to the first sewer in Drury-lane, the excrementitious matter which is frequently pumped up from two houses there runs on the surface; when I have passed that way, I have smelt a filthy smell from the water-closets of these two houses.

3481. How is the solid matter removed?—In carts, or in some instances it passes on the surface of the gutters into the drains.

3482. Is there not a certain degree of generation of foul air produced by the removal of those filthy deposits through the streets?—No doubt, and it must produce the most injurious effects.

3483. Even the carts passing through adjoining streets must have an injurious effect?—Unquestionably; we have to bear it in the night as well as the day; according to the law they are not to do this until it has struck twelve o'clock, but many persons are obliged to be about after that hour; and whether they be in-doors or out, it can matter little whether these agencies be put in operation before or after the hour of twelve.

3484. There is a liability to this being thrown over into the street, and a great deal of foul air generated?—Yes. I may here mention a case of a family in Crown-court: one woman had seven children at one time affected with typhus, and she attributed it to the abominable stench she was obliged to live in.

3485. Mr. *Mackinnon*.] You are the author of “Gatherings from Grave-yards?”—I am.

3486. You have therefore personally examined the principal burying-grounds of the metropolis?—I have.

3487. Have the goodness to describe to the Committee their state?—The majority of the burying-places in London, whether they be called vaults, cellars, or grave-yards, are in a very dangerous and disgusting condition.

3488. Will you state what, in your opinion, is their physical and moral effect?—I have collected irrefragable proofs of both positions; I have given abundant evidence of their dangerous and immoral influence; I have, since I published my work, become acquainted with many instances, demonstrating the injurious effect of masses of bodies in putrefaction; I calculate, according to the present returns of mortality, we should have at least 5,000,000 of bodies amongst us in a hundred years, taking it at 52,000 per annum. I have no question that the extent of mortality has never been fairly entered until the late excellent Act; it was matter of speculation. I have demonstrated that bodies have been placed in spaces that could not properly contain them; hence has resulted a shocking state of things; the mutilation of bodies, the destruction of their envelopes, with a host of immoral consequences and injurious results.

3489. *Chairman.*] Have you any doubt of the injurious effects of this practice?—None. Here is one instance: I speak now of the nursing of bodies in lead, in what are called vaults, in the midst of human dwellings; it is a most injurious practice, and one that ought to be annihilated. The lead cannot confine the gas, therefore the only way to get rid of the nuisance, is to take the bodies away at once, where a sufficient quantity of good air can be found circulating without interruption. During the demolition of the old church of St. Dunstan's, the dead in the vaults were removed. This was found to be a matter of some difficulty and much danger. Several of the labourers employed refused to continue the work. They were well supplied with brandy, and under the influence of a half-drunken excitement, they effected their removal. William Mutton, a labourer, employed, within a few hours after his exposure, complained of a nauseous taste in the mouth and throat, severe pain in the chest accompanied with a cough; his skin subsequently became of a deep yellow tinge, and extremely harsh and dry. This man was at times so affected with the effluvia, that he was compelled to support himself against the wall of the vault. In removing the body of a man who had committed suicide, the gaseous exhalation was so powerful that he was rendered unconscious for a considerable period. He invariably declared that this was the cause of his death.

3490. Do you think it was?—I should think it more than likely; I have produced a number of results in my work. I will give a recent case:—Thomas Beal, 2, Cromwell-place, Little Shire-lane, a strong compactly-made man, aged 26, has been employed as grave-digger about four years; he was engaged in the month of January, 1840, in assisting William West, the beadle of St. Mary-le Strand, to clean up the rector's vault previous to the reception of the body of a deceased parishioner, who died 27th January, 1840; the vault, a detached building, is entered by steps from the church-yard; two of the men employed were sensible of a disgusting odour, which left a coppery taste in the throat. On the evening of the same day Beale had vomiting, cough, and considerable expectoration, and extreme lassitude during five or six days. Six days after this exposure he consulted me, in consequence of a peculiar eruption, which first attacked the

breast, and subsequently (within two days) spread over the entire surface of the body. On the fourteenth day from the appearance of this eruption a very painful enlargement of the glands in the left axilla and the groin of the same side occurred, both of which suppurated extensively during six weeks; he has now, May 5th, 1840, the remains of the eruption over large portions of both arms. I produce this case to show an example of the same poison producing the same results, for William West, who died of typhoid fever, was affected in precisely the same manner, excepting that he had no glandular enlargement; he imprudently entered the vault soon after it was opened for the purposes of ventilation. After his return home he complained to his wife that he had a peculiar,—a coppery taste in his mouth; within a few hours afterwards he complained of pain in the head, nausea, loss of appetite, and debility; in a few days he was attacked by an eruption, which first appeared over the chest, and in a few days had covered the entire body; he remained a considerable time in a very debilitated state, and it was the opinion of his widow that it was in consequence of his imprudent exposure to the exhalations passing off from the bodies in this vault.

3491. Mr. *Mackinnon*.] Do you find, as a medical man, that this putrid effluvia, arising from dead bodies, affects all individuals in the same manner, or does it affect different individuals in a different manner?—Unquestionably the man who is accustomed to an office executes it best; grave-diggers in many localities would not be able to do their work but under the influence of strong stimulants. We may take the evidence of medical men. Every man almost engaged in dissection is affected with diarrhoea; let him leave off his dissection for a time, and he will get rid of it; if you place a man accustomed to the exhalations in the dissecting room he will be frequently affected with diarrhoea. I was myself for three months, in Paris.

3492. Is there anything further you have to state upon this subject?—I can state other instances, but it appears quite unnecessary.

3493. You state in your work that graves are sometimes left open in this city; will you state any instance?—I think it is a most abominable practice; it is done in many instances to save time and to get space. I have one in my own neighbourhood; I examined that grave the other day; that is a representation (*producing it.*) It was dug 22 feet deep; and within a few feet of the windows of the house; there were ten or a dozen coffins projecting into the grave; I have no doubt some of them had been cut through. My opinion is, that the lighter gases pass off; the heavy gases, the carbonic, oxide and carburetted hydrogen, will fall down to the bottom of the grave. It is generally supposed a candle will not burn in a place of that kind, but I think a candle may be extinguished and yet life retained; I tried a lighted candle; it was extinguished at a depth of 12 feet from the surface; I requested the grave-digger to cover over the top of the grave, and to throw the depth of a foot of earth upon it. I tried another experiment, and the candle was extinguished at a depth of eight feet. I think we ought not to have those places amongst us.

3494. What place was this?—St. Martin's-in-the-Fields, in Drury-lane; the yard is raised there even with the first floor windows surrounding the place. It is close to the large theatres.

3495. You state in your book a case in which the same poison,

arising from putrefaction, has had a different effect on two individuals; will you explain that?—One was a young gentleman 19 or 20 years of age; the other, an undertaker, a very respectable man, whose name I have given as being poisoned at Enon Chapel, in Clement's-lane. The man went to a church at the west end of the town to prepare for the burial of the mother of the young gentleman; not being acquainted with the grave-digger, he contrived to lift up the stone covering the entrance of the vault called the rector's vault; they were both prostrated on the floor by the gas; the undertaker being a powerful man lifted up and carried out the other. The two men were differently affected; the elder, who had been attended by Dr. James Johnson professionally, for two years, could not retain his food; he assured me that the gaseous exhalation had been nearly the death of his young companion, who had an ulcerated sore throat, had had the best advice and many journeys and changes of air, and it was two years before he recovered. I do not think that the living should be thus poisoned by the dead.

3496. You mention gases arising out of coffins; you consider them as generated in a leaden coffin? Yes; it is impossible to prevent it; ~~as in any other specific place where the gas is generated~~ 15/

3497. Therefore it is impossible burying in a large town to prevent the generation of gases mixing with the air?—I think it impossible. I have seen coffins quite convex and the screws driven out.

3498. The only effectual remedy would be the removal of those burial-places to country districts, or districts where there was not a thick population?—Certainly; I do not think any consideration of money should be allowed to interfere.

3499. In proportion as the mass of dead is laid in the church-yard the gas must be increased?—Certainly.

3500. And in that proportion that must be unhealthy to the neighbourhood?—Yes; I could mention a grave-yard in my neighbourhood where a shower of rain would lay bare the tops of the coffins.

3501. Mr. *Greene*.] Are there any vaults where the gratings adjoining those vaults, and places for ventilating them, open into the public streets?—Yes; they must be ventilated, or they dare not descend; they have been obliged to leave even the doors of St. Clement's Church, in the Strand, open. On Saturday the 19th of August 1839, it was necessary to open the doors of the church of St. Clement's, from the intolerable stench, proceeding, in my opinion, from the dead bodies.

3502. Mr. *Mackinnon*.] Then of course that must be very injurious to the health of the congregation attending there?—I have no doubt of that; it produces frequent faintings.

3503. Mr. *Greene*.] Are you aware that in the vaults of the church of St. George's, Hanover-square, and Hanover Chapel in Regent-street, the gratings open to the street?—Yes; that is a very frequent circumstance; the ventilation is indifferently performed. At Enon Chapel in Clement's-lane, there is the greatest facility for the escape of the gas into the place.

3504. Mr. *Mackinnon*.] Your opinion is that if the practice of burying in this large town is continued, in the course of a hundred years we should have four millions of dead exhaling their gases to

the injury of the living?—I should think at least that number, if the mortality be 52,000 annually.

3505. How long will the gas, in your opinion, remain in the coffin before it is entirely evaporated?—That would be a very difficult question to answer; I should think it might be kept there for ever under peculiar circumstances. There was an instance occurred in the church-yard at Hampstead, of a grave-digger striking by accident, not purposely, into a coffin; the body had been buried in lead a hundred years before, and the man was struck down with it; it is impossible to form any conception of the most abominable stench proceeding from the dead.

3506. You have spoken of the injury arising from the gases and putrefaction of animal matter creating those unwholesome exhalations to which you have alluded: will the putrefaction arising from the small quantity of animal matter from one human being buried do material injury?—Unquestionably, a very serious injury. There is one point which is material, the keeping of bodies in low neighbourhoods before interment; I have seen frequent proofs of the injurious consequences resulting from dead bodies being kept too long previous to interment; this ought to be remedied; the periods of burying should be diffused over the entire week. At present the poor bury almost entirely on the Sunday, and frequently if a person dies on the Wednesday, if they have not time to make arrangements previous to the Sunday following, they keep that body perhaps till the Sunday next succeeding. I have frequently known a body kept on the table or the bed in a poor man's room; perhaps he is living in that room, sleeping there, and performing all the usual and necessary offices of the family with his wife and five or six children. I have often wished for an absolute power to compel the burying of bodies under circumstances of this nature; a child, for instance, dies of the confluent small-pox.

3507. *Chairman.*] Is there any power to order the burial of a body in such a state?—Not the slightest.

3508. Has the Coroner's Court any power?—I think not. There are other consequences which sometimes follow with respect to the dead.

3509. *Mr. Mackinnon.*] What is the longest time you have known those bodies kept?—Twelve and fourteen days. In this cul-de-sac, Wellington-court, there were two bodies in the house when the other children were attacked; there the stench was so horrible, the neighbours were obliged to complain; they could bear a great deal, but they went to the parochial authorities about it.

3510. *Chairman.*] There is no inspector who can be appealed to?—No; there are no sanitary regulations to meet the case.

3511. *Mr. Mackinnon.*] What would you suggest?—I may state in general terms, that my intimate knowledge of, and acquaintance with, the scandalous and abominable practices followed in very many places of interment, compels me, however unwillingly, to say it matters little whether the body rests in a poor man's room, or putrefies on the surface of a grave-yard which is incapable of receiving it.

3512. *Chairman.*] From your acquaintance with the bad state of the burial-grounds in London, and with the negligence as to burying at the proper time among the poorer classes, do you not think that it is absolutely necessary there should be a legislative provision for the

purpose of preventing burial-grounds continuing in populous cities, and for some mode of compelling burials to take place at the proper period?—I think that absolutely necessary; the mode of burying, and the tasks imposed upon the men, makes the matter highly injurious in many points of view. In the case of the poor, I am convinced that the indecent disposal of the dead, practised in many grounds, has begotten in their minds feelings of bitter animosity, and consequent estrangement towards the parochial authorities; that I consider as an important matter. I will give a proof. There are burial societies established in most neighbourhoods; I have a book from which I will read rule the eighth; “That as this society is established for the decent interment of its members; if the friends of any member behave so disrespectfully to the member as to bury him or her at the parish expense, he shall be entitled to no assistance.” I have seen the most unseemly disputes about these things.

3513. There are great evils arising from the want of sufficient space, and the mode in which the burials take place?—Not merely physical evils, but moral ones.

3514. Mr. *Mackinnon*.] Is it your impression that the evils arising from those gases produced by putrefaction, are not merely physically injurious, but also demoralize the people by driving them to spirituous liquors?—I would not perhaps go so far as that; but if we take the instance of the grave-diggers, I would affirm that the system has educated a race of men, and compelled them to execute offices that they ought to shudder at; it is a very frequent circumstance for a grave-digger to cut a body in half.

3515. In consequence of the closeness with which they are packed?—Yes.

3516. He cannot get down to the grave without?—No, he cannot in many instances; and it is not only the making room, but the putrescent earth is thrown up, and the graves are open longer than ought to be permitted.

3517. Is there any benefit or profit arising to the grave-digger from making use of the wood of the coffins?—That I have stated in my book. I took the police to see a sack full of that wood in a court in Carey-street; it is extensively burnt all over London; that (*producing it*) is a portion of a coffin I have brought; the poor creature died in Charing-cross Hospital; she had frequently burnt large quantities of it herself; this wood was drying with a large quantity which the police seized, and the fire was made of this wood when we entered the room. There was a large quantity I brought away, and sent it to the head police-office in Scotland-yard, with my compliments, and that they had better look into the matter; they sent it to the parish officers, and they said, “Oh, it must be got rid of; the poor are quite welcome to it.” This I produce was part of a pauper’s coffin. I know a parish in which the grave-digger burns it as common fuel. I asked him whether he felt any stench from it; he said, “Oh, the people say it smells now and then;” but he was a drinking man. This state of things has in fact educated a race of men too frequently the most degraded and abandoned; with but few exceptions, they drink to excess, and indeed too frequently they are compelled to stimulate.

3518. The grave-diggers in those close neighbourhoods?—Yes, in the old burying-grounds: thus the sources of physical and moral evil

are in an intimate degree identical; the condition of by far the majority of grave-yards and burying places in London has been such for many years, that they have not been capable of receiving the annual mortality. There are men who have unblushingly made the disposal of the dead a source of income to an extent that few would believe; some private speculators have long known that a freehold grave-yard is infinitely preferable as a source of profit to any other. The want of space has produced, among other inevitable results, a necessity for the disposing of bodies deposited in places utterly inadequate to contain them; they have been removed by various means, the spade or pickaxe of the grave-digger, or the application of lime. The wood of the coffins has been given away or sold in large quantities.

3519. *Mr. Mackinnon.*] Must not the deposit of a sack full of that wood in a house produce very injurious effects?—No doubt it must; but the people cannot see those active poisons evolved in their houses.

3520. You say that the poor are not in general aware of those gases impregnating the air, and that no precautions are taken by them to prevent it?—I cannot see what precautions can do if they and their children live constantly in this atmosphere; thus I have invariably found that when a child or children have come from the country and gone to a badly drained house, in a few weeks they will succumb to the influence. There is a chapel in Clement's-lane, called Enon Chapel, to which I have before referred; there is a cellar underneath it, not covered with a lath and plaster defence, and there is nothing to prevent the exhalations passing up. In this there have been deposited about 12,000 bodies in about 15 years; on an average 30 bodies a week were buried there for a considerable time; it is used as a place of worship every Sunday, and is now occupied by a society who hold public meetings. I am quite amazed that such a place should have been permitted to exist. Sixty-four loads of bodies and earth, mixed together, were removed. Such was the intolerable stench that numbers left the place, and very commonly, during the services held here, four and five women have been carried out in a fainting condition.

3521. In your opinion did that arise from the stench of those bodies?—I think so, decidedly. Many have suffered seriously in their health. One man, whom I have recently examined, attributes a malignant typhus, which held him to his bed during seven months, to the exhalations from the bodies beneath, and I believe he was correct in that opinion.

3522. *Chairman.*] This evidence you have given of a particular spot, is strongly confirmatory of your general opinion of the necessity of burial-grounds being removed from large towns?—Certainly.

The following notice of Mr. Anderton's motion in the Court of Common Council has appeared in the *Provincial Medical and Surgical Journal*, of Aug. 7th, 1841,—

"The Subject of intramural sepulture has at length been taken up by the Common Council of the City of London, and we trust sincerely that the question will not be abandoned until some measures be devised for allowing the dead 'to rest in peace.' The evil effects produced by the interment of large numbers of bodies in contracted spaces have been abundantly proved by Mr. Walker, in his popular work, entitled '*Gatherings from Grave Yards*;' but independently of the physical evils attendant on the practice, common decency, and the respect due to the departed, require that some place of interment should be provided, where the dead may remain undisturbed. Within the precincts of London no such place can exist."

